



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/003,209	10/30/2001	John J. Light	10559-538001/P12444	4981
20985	7590	04/22/2004		EXAMINER
FISH & RICHARDSON, PC 12390 EL CAMINO REAL SAN DIEGO, CA 92130-2081			KUMAR, SRILAKSHMI K	
			ART UNIT	PAPER NUMBER
			2675	6
				DATE MAILED: 04/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/003,209	LIGHT, JOHN J.
	Examiner	Art Unit
	Srilakshmi K. Kumar	2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 08 February 2004.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-30 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-30 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

- Certified copies of the priority documents have been received.
- Certified copies of the priority documents have been received in Application No. _____.
- Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4.

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) Notice of Informal Patent Application (PTO-152)

6) Other: _____.

DETAILED ACTION

The following office action is in response to amendment a filed on February 8, 2004. Claims 1, 4, 10, 11, 14, 20, 21, 24 and 31 have been amended. The 35 USC 112, second paragraph, rejection has been withdrawn.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zwern (US 6,084,556) in view of Miller (US 6,229,542).

As to independent claims 1, 11 and 21, Zwern discloses a method and apparatus of displaying a virtual three dimensional scene (Figs. 1, 3 and 6), comprising; a memory that stores executable instructions; Zwern discloses a computer, item 12, it would have been obvious to one of ordinary skill in the art that the computer would have a memory that stores executable instructions; and a processor (computer, item 12) that executes the instructions to: track a positional change of a head of a user with respect to a display (col. 6, lines 52-60); transform the virtual 3D scene in accordance with the positional change of the head (col. 6, lines 52-67, col. 10, lines 29-41); and project on the display a transformed virtual 3D scene (col. 6, lines 52-67, col. 10, lines 29-41).

Zwern does not disclose wherein the virtual 3D scene is rendered in a perspective projection defined by frustum bounded by a near plane and by a far plane located opposite the near plane. In a similar field of endeavor, Miller discloses in col. 1, a method and apparatus relating to graphical user interfaces in computer systems, specifically to generalized three dimensional graphical user interface. Fig. 3 and col. 3, lines 5-52 of Miller, disclose where the virtual 3D scene is rendered in a perspective projection defined by a frustum bounded by a near plane (14) and a far plane (16). It would have been obvious to one of ordinary skill in the art to incorporate the method for rendering a virtual 3D scene as in col. 2, lines 10-30, using this method would enable the user to better manage objects shown in the virtual 3D scene.

As to dependent claims 2, 12 and 22, limitations of claims 1, 11 and 21, and further comprising, wherein transforming the virtual 3D scene comprises shifting the virtual 3D scene in a left direction of the user when the head moves in a right direction of the user. Zwern discloses in col. 6, lines 52-67, where when the user moves his head to the right, what is shown on the display is what was to the right of the previous scene, therefore it would have been obvious to one of ordinary skill in the art that if the 3D image would move to the left to show the scene on the right.

As to dependent claims 3, 13 and 23, limitations of claims 2, 12 and 22, and further comprising, wherein transforming the virtual 3D scene comprises shifting the 3D scene in a right direction of the user when the head moves in a left direction of the user. Zwern discloses in col. 6, lines 52-67, where when the user moves his head to the right, what is shown on the display is what was to the right of the previous scene, therefore it would have been obvious to one of ordinary skill in the art that if the 3D image would move to the left to show the scene on the

right. Since Zwern discloses the moving to the left to show the image to the right, it would have been obvious to one of ordinary skill in the art that the head and image would be able to move in the opposite direction as well.

As to dependent claims 4, 14 and 24, limitations of claims 3, 13 and 23, wherein the camera is attached to the display. Zwern discloses a camera in Figs. 1, 3 and 5. Although Zwern does not teach where the camera is attached to a display, it would have been obvious to one of ordinary skill in the art that a camera could have been shown to be attached to the display as the cameras on for computers are readily available to consumers.

As to dependent claims 5, 15 and 25, limitations of claims 1, 11 and 21, and further comprising, wherein transforming the virtual 3D scene comprises increasing a magnification of the virtual 3D scene when the head moves toward the display. Although Zwern does not disclose where the increase in magnification is accomplished by moving the user's head, it would have been obvious to one of ordinary skill in the art that as the user moves his head the image changes (col. 6, lines 52-67), thus as the user moves his head towards the display, the image could have been magnified or zoomed.

As to dependent claims 6, 16 and 26, limitations of claims 5, 15 and 25, and further comprising, wherein transforming the virtual 3D scene comprises reducing the magnification of the virtual 3D scene when the head moves away from the display. Although Zwern does not disclose where the decrease in magnification is accomplished by moving the user's head, it would have been obvious to one of ordinary skill in the art that as the user moves his head the image changes (col. 6, lines 52-67), thus as the user moves his head away from the display, the image could have decreased in magnification or zoom.

As to dependent claims 7, 17 and 27, limitations of claims 5, 15 and 25, and further comprising, wherein the camera is positioned above the display. Zwern discloses a camera in Figs. 1, 3 and 5. Although Zwern does not teach where the camera is attached to a display, it would have been obvious to one of ordinary skill in the art that a camera could have been shown to be attached to the display as the cameras on for computers are readily available to consumers.

As to dependent claims 8, 18 and 28, limitations of claims 3, 13 and 23, and further comprising, wherein the virtual 3D scene is shifted with respect to the head by a factor of 10. Zwern discloses in col. 6, lines 52-67, where when the user moves his head to the right, what is shown on the display is what was to the right of the previous scene, therefore it would have been obvious to one of ordinary skill in the art that if the 3D image would move to the left to show the scene on the right. Since Zwern discloses the moving to the left to show the image to the right, it would have been obvious to one of ordinary skill in the art that the head and image would be able to move in the opposite direction as well.

As to dependent claims 9, 19 and 29, limitations of claims 1, 11 and 21, and further comprising, wherein tracking the positional change of the head further comprises tracking an iridescent color in an object attached to the head. Although Zwern does not disclose tracking an iridescent color in the object attached to the head, it would have been obvious to one of ordinary skill in the art that the position tracker could have been programmed to track in different ways as disclosed in col. 14, lines 14-42.

As to dependent claims 10, 20 and 30, see limitations of claims 2, 3, 12, 13, 22 and 23, above.

Response to Arguments

3. Applicant's arguments with respect to claims 1-30 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Srilakshmi K. Kumar whose telephone number is 703 306 5575. The examiner can normally be reached on 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven J. Saras can be reached on 703 305 9720. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Srilakshmi K. Kumar
Examiner
Art Unit 2675

SKK
April 16, 2004



DENNIS-DOON CHOW
PRIMARY EXAMINER